

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Per.: \_\_\_\_\_

# 5.1 - Distinguishing ratios and proportions

Complete on a separate sheet of paper (or on the back)

13. **Baseball** A baseball team played 154 regular season games. The ratio of the number of games they won to the number of games they lost was  $\frac{5}{2}$ . How many games did they win? How many games did they lose?
14. The measures of two supplementary angles are in the ratio 5 : 7. What is the measure of the larger angle?
15. The lengths of the sides of a triangle are in the extended ratio 6 : 7 : 9. The perimeter of the triangle is 88 cm. What are the lengths of the sides?
16. The measures of the angles of a triangle are in the extended ratio 4 : 3 : 2. What is the measure of the largest angle?

**Algebra** Solve each proportion.

17.  $\frac{1}{3} = \frac{x}{12}$

18.  $\frac{9}{5} = \frac{3}{x}$

19.  $\frac{4}{x} = \frac{5}{9}$

20.  $\frac{y}{10} = \frac{15}{25}$

21.  $\frac{9}{24} = \frac{12}{n}$

22.  $\frac{11}{14} = \frac{b}{21}$

23.  $\frac{3}{5} = \frac{6}{x+3}$

24.  $\frac{y+7}{9} = \frac{8}{5}$

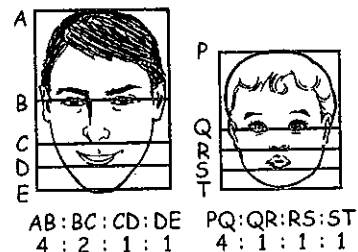
25.  $\frac{5}{x-3} = \frac{10}{x}$

26.  $\frac{n+4}{8} = \frac{11}{16}$

- © 37. **Think About a Plan** The area of a rectangle is 150 in.<sup>2</sup>. The ratio of the length to the width is 3 : 2. Find the length and the width.
- What is the formula for the area of a rectangle?
  - How can you use the given ratio to write expressions for the length and width?

**Art** To draw a face, you can sketch the head as an oval and then lightly draw horizontal lines to help locate the eyes, nose, and mouth. You can use the extended ratios shown in the diagrams to help you place the lines for an adult's face or for a baby's face.

38. If  $AE = 72$  cm in the diagram, find  $AB$ ,  $BC$ ,  $CD$ , and  $DE$ .
39. You draw a baby's head as an oval that is 21 in. from top to bottom.
  - a. How far from the top should you place the line for the eyes?
  - b. Suppose you decide to make the head an adult's head. How far up should you move the line for the eyes?



**Algebra** Solve each proportion.

40.  $\frac{1}{7y-5} = \frac{2}{9y}$

41.  $\frac{4a+1}{7} = \frac{2a}{3}$

42.  $\frac{5}{x+2} = \frac{3}{x+1}$

43.  $\frac{2b-1}{4} = \frac{b-2}{12}$